

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Hawks, *et al.*

Application Serial No.: 09/413,552

Filed: 10/06/99

For: Method and Apparatus Suitable for Forming a Microelectronic Device Package

Assistant Commissioner for Patents

Washington, D.C. 20231

POWER OF ATTORNEY BY ASSIGNEE OF ENTIRE INTEREST
(REVOCATION OF PRIOR POWERS)

As assignee of record of the entire interest of the above-identified:

☒
☐

application,
patent

REVOCATION OF PRIOR POWERS OF ATTORNEY

all powers of attorney previously given are hereby revoked and

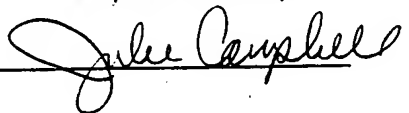
NEW POWER OF ATTORNEY

the following attorneys are hereby appointed to prosecute and transact all business in the Patent and Trademark Office therewith:

From THOMAS, KAYDEN, HORSTEMEYER & RISLEY, L.L.P.: George M. Thomas, Reg. No. 22,260; James W. Kayden, Reg. No. 31,532; Scott A. Horstemeyer, Reg. No. 34,183; Stephen R. Risley, Reg. No. 35,659; Jeffrey R. Kuester, Reg. No. 34,367; Daniel J. Santos, Reg. No. 40,158; Michael J. Tempel, Reg. No. 41,344; Daniel R. McClure, Reg. No. 38,962; Robert E. Stachler II, Reg. No. 36,934; David P. Kelley, Reg. No. 17,420; Reg. No. 41,344; David R. Risley, Reg. No. 39,345; Jon E. Holland, Reg. No. 41,077; Dan R. Gresham, Reg. No. 41,805; J. Scott Culpepper, Reg. No. 41,692; M. Paul Qualey, Reg. No. 43,024; Robert P. Biddle, Reg. No. 35,826; Robert A. Blaha, Reg. No. 43,502; Jennifer M. Gruber, Reg. No. 42,601; Raymond W. Armentrout, Reg. No. 45,866; Cynthia J. Lee, Reg. No. 46,033; N. Andrew Crain, Reg. No. 45,442; Monica A. Winghart, Reg. No. 46,790; Sami O. Malas, Reg. No. 44,893; Marianne H. Parker, Reg. No. 46,165; Eric M. Ringer, Reg. No. 47,028; Larry E. Thompson, Reg. No. 41,346; Adam E. Crall, Reg. No. 46,646; William F. Heinze, Reg. No. 36,161.

From CONEXANT SYSTEMS, INC.: Daniel N. Yannuzzi, Reg. No. 36,727; Joseph H. Lee, Reg. No. 37,664; Semion Talpalatsky, Reg. No. 35,380; Stephen Warhola, Reg. No. 43,237

I hereby certify that this correspondence is being deposited with the United States Postal Service, as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on September 23, 2002



Direct correspondence and telephone calls to:

Scott A. Horstemeyer
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, L.L.P.
100 Galleria Parkway, Suite 1750
Atlanta, Georgia 30339
770-933-9500

ASSIGNEE OF ENTIRE INTEREST

CONEXANT SYSTEMS, INC.
4311 Jamboree Road
Dept. 927, MS E10 005
Newport Beach, CA 92660-3095

ASSIGNEE CERTIFICATION

The certification under 37 C.F.R. §3.73(b) establishing the right of assignee to take action is attached hereto along with documentation evidencing same.



Daniel N. Yannuzzi
Vice President and Chief IP Counsel

Date: _____

9/04/2001

Docket No.: 50324-1160
(Conexant No. 98RSS411)

IN THE UNITED STATES PATENT AND
TRADEMARK OFFICE

UTILITY PATENT

Applicant(s): Doug Hawks; Siamak Fazelpour; and
Robbie Villanueva Docket No.: 50944.2300
Serial No.: TBA Group Art Unit: TBA
Filed: TBA Examiner: TBA
TITLE: METHOD AND APPARATUS SUITABLE FOR FORMING A
MICROELECTRONIC DEVICE PACKAGE

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As a below named inventors, We hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled **METHOD AND APPARATUS SUITABLE FOR FORMING A MICROELECTRONIC DEVICE PACKAGE**, the specification of which:

☒ is attached hereto.
☐ was filed on _____ as Application Serial No. _____ and
was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with 37 C.F.R. §1.56.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Priority Not Claimed

☐

_____	_____	_____
Number	Country	Filing Date

☐

_____	_____	_____
Number	Country	Filing Date

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below.

Application Number

Filing Date

Application Number

Filing Date

I hereby claim the benefit under 35 U.S.C. §120 of any United States application(s), or §365© of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of 35 U.S.C. §112, I acknowledge the duty to disclose material information as defined in 37 C.F.R. §1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

Application Serial No.

Filing Date

Status -- Patent, Pending, Abandoned

Application Serial No.

Filing date

Status -- Patent, Pending, Abandoned

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY

I hereby appoint the following attorneys to prosecute the above-captioned United States patent application and to transact all business in the United States Patent and Trademark Office connected therewith and with the resulting patent, individually and collectively, Cynthia L. Pillote, Reg. No. 42,9999, and: **SNELL & WILMER LLP, One Arizona Center, 400 East Van Buren, Phoenix, Arizona 85004-0001**; Tel. (602) 382-6000; Fax (602) 382-6070; and the registered attorneys associated with Snell & Wilmer's Customer Number 020322.

Please send all further correspondence to Snell & Wilmer LLP at the above address.

Full name of first inventor: Doug Hawks DOUGLAS A. HAWKS
Inventor's signature: [Signature] Date: 10/1/99
Residence: SAN DIEGO CA/USA
City State/Country
Citizenship: US
Post Office Address: 16094 TURTEBACK RD Zip Code: 92127

Full name of second joint inventor: Siamak Fazelpour
Inventor's signature: _____ Date: _____
Residence: _____
City State/Country
Citizenship: _____
Post Office Address: _____ Zip Code: _____

Full name of third joint inventor: Robbie Villanueva
Inventor's signature: _____ Date: _____
Residence: _____
City State/Country
Citizenship: _____
Post Office Address: _____ Zip Code: _____

POWER OF ATTORNEY

I hereby appoint the following attorneys to prosecute the above-captioned United States patent application and to transact all business in the United States Patent and Trademark Office connected therewith and with the resulting patent, individually and collectively, Cynthia L. Pillote, Reg. No. 42,9999, and: **SNELL & WILMER L.L.P., One Arizona Center, 400 East Van Buren, Phoenix, Arizona 85004-0001; Tel. (602) 382-6000; Fax (602) 382-6070; and the registered attorneys associated with Snell & Wilmer's Customer Number 020322.**

Please send all further correspondence to Snell & Wilmer L.L.P. at the above address.

Full name of first inventor: Doug Hawks

Inventor's signature: _____ Date: _____

Residence: _____
City State/Country

Citizenship: _____

Post Office Address: _____ Zip Code: _____

Full name of second joint inventor: Siamak Fazelpour

Inventor's signature: Fazelpour Date: 09-28-99

Residence: IRVINE CA
City State/Country

Citizenship: IRAN

Post Office Address: 91 LINHAVEN Zip Code: 92602

Full name of third joint inventor: Robbie Villanueva

Inventor's signature: [Signature] Date: 9/28/99

Residence: ROMERO SANTA MARGARITA CA
City State/Country

Citizenship: US

Post Office Address: 11 VIA BANDADS Zip Code: 92688

Delaware

PAGE 1

The First State

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF OWNERSHIP, WHICH MERGES:

"SKYWORKS SOLUTIONS, INC.", A DELAWARE CORPORATION,
WITH AND INTO "ALPHA INDUSTRIES, INC." UNDER THE NAME OF
"SKYWORKS SOLUTIONS, INC.", A CORPORATION ORGANIZED AND EXISTING
UNDER THE LAWS OF THE STATE OF DELAWARE, AS RECEIVED AND FILED
IN THIS OFFICE THE TWENTY-FIFTH DAY OF JUNE, A.D. 2002, AT 8:30
O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF
THE AFORESAID CERTIFICATE OF OWNERSHIP IS THE TWENTY-SIXTH DAY
OF JUNE, A.D. 2002, AT 8 O'CLOCK A.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE
NEW CASTLE COUNTY RECORDER OF DEEDS.



Harriet Smith Windsor
Harriet Smith Windsor, Secretary of State

0588101 8100M

AUTHENTICATION: 1850289

020408938

DATE: 06-25-02

CERTIFICATE OF OWNERSHIP AND MERGER
OF
SKYWORKS SOLUTIONS, INC.
WITH AND INTO
ALPHA INDUSTRIES, INC.

Pursuant to Section 253 of the General
Corporation Law of the State of Delaware

Alpha Industries, Inc., a Delaware corporation (the "Company"), pursuant to Section 253 of the General Corporation Law of the State of Delaware (the "DGCL"), hereby certifies as follows:

1. The Company owns all of the issued and outstanding common stock, par value \$.01 per share, of Skyworks Solutions, Inc., a Delaware corporation (the "Subsidiary"), which is the only outstanding class of capital stock of the Subsidiary.
2. On June 13, 2002, the Board of Directors of the Company unanimously adopted resolutions, substantially in the form attached as Exhibit A hereto, authorizing the merger of the Subsidiary with and into the Company pursuant to Section 253 of the DGCL (the "Merger"), with the Company surviving the Merger. Such resolutions have not been modified or rescinded and are in full force and effect on the date hereof.
3. The Company, as the sole stockholder of the Subsidiary, has approved the Merger pursuant to Section 253 of the DGCL.
4. This Certificate of Ownership and Merger shall become effective at, and the effective date of the Merger shall be, 8:00 a.m., Eastern Time, on June 26, 2002.
5. Upon the effective date of the Merger, the name of the Company, as the corporation surviving the Merger, shall be changed to "Skyworks Solutions, Inc."

6. Upon the effective date of the Merger, Article First of the Restated Certificate of Incorporation, as amended, of the Company shall be amended to read: "FIRST: The name of the Corporation is 'Skyworks Solutions, Inc.'" Except as set forth in this Section 6 of this Certificate of Ownership and Merger, the Restated Certificate of Incorporation, as amended, of the Company shall remain unamended.

[REMAINDER OF PAGE INTENTIONALLY BLANK]

IN WITNESS WHEREOF, Alpha Industries, Inc. has caused this
Certificate of Ownership and Merger to be executed in its corporate name this 25th day of
June, 2002.

ALPHA INDUSTRIES, INC.

By: /s/ Paul E. Vincent
Name: Paul E. Vincent
Title: Vice President, Chief Financial Officer,
Treasurer and Secretary

Exhibit A

WHEREAS, the Company owns all of the issued and outstanding shares of capital stock of Skyworks Solutions, Inc., a Delaware corporation and a wholly owned subsidiary of the Company (the "Subsidiary"); and

WHEREAS, the Board of Directors deems it advisable and in the best interest of the Company and its stockholders that, following the effective time of the merger of the Company with the wireless business of Conexant (the "Effective Time"), the Company effect a merger (the "Short Form Merger") of Subsidiary with and into the Company, with the Company surviving the Short Form Merger (the "Surviving Corporation").

NOW, THEREFORE, IT IS RESOLVED, that the Short Form Merger be, and it hereby is, approved and adopted in all respects; and further

RESOLVED, that the Company be, and it hereby is, authorized and empowered to enter into and consummate the Short Form Merger, pursuant to which, among other things, at the Effective Time of the Short Form Merger (as defined below) (i) Subsidiary will be merged with and into the Company pursuant to Section 253 of the General Corporation Law of the State of Delaware ("DGCL") and the separate existence of Subsidiary shall thereupon cease; (ii) the name of the Surviving Corporation shall be "Skyworks Solutions, Inc."; (iii) the Restated Certificate of Incorporation, as amended, of the Company shall be the Certificate of Incorporation of the Surviving Corporation; and (iv) the Second Amended and Restated By-Laws of the Company shall be the By-Laws of the Surviving Corporation, each of such actions being hereby approved and adopted; and further

RESOLVED, that at the Effective Time of the Short Form Merger, Article First of the Restated Certificate of Incorporation, as amended, of the Company shall be amended to read as follows:

"FIRST: The name of the Corporation is 'Skyworks Solutions, Inc.'"

; and further

RESOLVED, that, at the Effective Time of the Short Form Merger each share of common stock, par value \$0.01 per share, of Subsidiary issued and outstanding immediately prior to the

Effective Time of the Short Form Merger shall, by virtue of the Short Form Merger and without any action on the part of the holder thereof, be cancelled and cease to exist; and further

RESOLVED, that the appropriate officers of the Company be, and each of them acting singly hereby is, authorized, in the name and on behalf of the Company, to execute and file, or cause to be filed, following the Effective Time, an appropriate Certificate of Ownership and Merger to effect the Short Form Merger with the Secretary of State of the State of Delaware in accordance with the DGCL, which Certificate of Ownership and Merger shall state the time of effectiveness of the Short Form Merger (the "Effective Time of the Short Form Merger"), and to make, execute, deliver and file at the appropriate time such other instruments and documents as may be necessary or desirable to consummate the Short Form Merger pursuant to the DGCL.

Delaware

PAGE 1

The First State

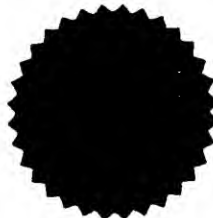
I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF MERGER, WHICH MERGES:

"WASHINGTON SUB, INC.", A DELAWARE CORPORATION,

WITH AND INTO "ALPHA INDUSTRIES, INC." UNDER THE NAME OF "ALPHA INDUSTRIES, INC.", A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF DELAWARE, AS RECEIVED AND FILED IN THIS OFFICE THE TWENTY-FIFTH DAY OF JUNE, A.D. 2002, AT 8 O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF MERGER IS THE TWENTY-FIFTH DAY OF JUNE, A.D. 2002, AT 11:59 O'CLOCK P.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.



Harriet Smith Windsor
Harriet Smith Windsor, Secretary of State

0588101 8100M

AUTHENTICATION: 1850260

020408792

DATE: 06-25-02

CERTIFICATE OF MERGER
OF
WASHINGTON SUB, INC.
WITH AND INTO
ALPHA INDUSTRIES, INC.

Pursuant to Section 251 of the General
Corporation Law of the State of Delaware

Alpha Industries, Inc., a Delaware corporation (the "Corporation"), does
hereby certify:

FIRST: The names and states of incorporation of the constituent
corporations to this merger are as follows:

<u>Name</u>	<u>State of Incorporation</u>
Alpha Industries, Inc.	Delaware
Washington Sub, Inc.	Delaware

SECOND: The Agreement and Plan of Reorganization dated as of
December 16, 2001, as amended as of April 12, 2002 (the "Agreement") by and among
Conexant Systems, Inc., Washington Sub, Inc. and the Corporation, providing for, among
other things, the merger of Washington Sub, Inc. with and into the Corporation has been
approved, adopted, certified, executed and acknowledged by each of the constituent
corporations in accordance with the requirements of Section 251 of the General
Corporation Law of the State of Delaware.

THIRD: The Corporation shall be the surviving corporation of the merger
under the name "Alpha Industries, Inc." (the "Surviving Corporation").

FOURTH: The Certificate of Incorporation of the Surviving Corporation
shall be amended to read in its entirety as set forth on Exhibit A attached hereto until
thereafter changed, or amended as provided therein or by applicable law.

FIFTH: The executed Agreement is on file at an office of the Surviving
Corporation, the address of which is 20 Sylvan Road, Woburn, Massachusetts 01801. A
copy of the Agreement will be provided by the Surviving Corporation, upon request and
without cost, to any stockholder of either constituent corporation.

SIXTH: This Certificate of Merger shall become effective at 11:59 p.m.
Eastern Time on June 25, 2002.

IN WITNESS WHEREOF, the undersigned has caused this Certificate of Merger to be executed in its corporate name this 25th day of June, 2002.

ALPHA INDUSTRIES, INC.

By /s/ Paul E. Vincent
Name: Paul E. Vincent
Title: Vice President, Chief Financial
Officer, Treasurer and
Secretary

EXHIBIT A**RESTATED CERTIFICATE OF INCORPORATION
OF ALPHA INDUSTRIES, INC.,
AS AMENDED**

FIRST: The name of the Corporation is

Alpha Industries, Inc.

SECOND: The Corporation's registered office in the State of Delaware is located at 2711 Centerville Road, Suite 400, City of Wilmington, County of New Castle. The name and address of its registered agent is The Prentice-Hall Corporation System, Inc., 2711 Centerville Road, Suite 400, City of Wilmington, County of New Castle.

THIRD: The nature of the business, or objects or purposes to be transacted, promoted or carried on, are: To engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware.

FOURTH: The total number of shares of all classes of stock which the Corporation shall have the authority to issue is 550,000,000, of which (i) 525,000,000 shares of the par value of \$.25 each are to be of a class designated Common Stock (the "Common Stock") and (ii) 25,000,000 shares without par value are to be of a class designated Preferred Stock (the "Preferred Stock").

In this Article Fourth, any reference to a section or paragraph, without further attribution, within a provision relating to a particular class of stock is intended to refer solely to the specified section or paragraph of the other provisions relating to the same class of stock.

COMMON STOCK

The Common Stock shall have the following voting powers, designations, preferences and relative, participating, optional and other special rights, and qualifications, limitations or restrictions thereof:

1. **Dividends.** Subject to the rights of the holders of Preferred Stock, the holders of shares of the Common Stock shall be entitled to receive such dividends and distributions in equal amounts per share, payable in cash or otherwise, as may be declared thereon by the Board of Directors from time to time out of assets or funds of the Corporation legally available therefor.

2. **Rights on Liquidation.** In the event of any liquidation, dissolution or winding-up of the Corporation, whether voluntary or involuntary, after the payment to creditors and the payment or setting apart for payment to the holders of any outstanding Preferred Stock of the full preferential amounts to which such holders are entitled as herein provided or referred to, all of the remaining assets of the Corporation shall belong to and be distributable in equal amounts per share to the holders of the Common Stock. For purposes of this paragraph 2, a consolidation or merger of the Corporation with any other corporation, or the sale, transfer or lease of all or substantially all its assets shall not constitute or be deemed a liquidation, dissolution or winding-up of the Corporation.

3. **Voting.** Except as otherwise provided by the laws of the State of Delaware or by this Article Fourth, each share of Common Stock shall entitle the holder thereof to one vote.

PREFERRED STOCK

The Preferred Stock may be issued from time to time in one or more series. The Board of Directors is hereby authorized to provide for the issuance of shares of Preferred Stock in series and, by filing a certificate pursuant to the applicable law of the State of Delaware (hereinafter referred to as a "Preferred Stock Designation"), to establish from time to time the number of shares to be included in each such series, and to fix the designation, powers, preferences and rights of the shares of each such series and the qualifications, limitations and restrictions thereof. The authority of the Board of Directors with respect to each series shall include, but not be limited to, determination of the following:

(a) the designation of the series, which may be by distinguishing number, letter or title;

(b) the number of shares of the series, which number the Board of Directors may thereafter (except where otherwise provided in the Preferred Stock Designation) increase or decrease (but not below the number of shares thereof then outstanding);

(c) whether dividends, if any, shall be cumulative or noncumulative and the dividend rate of the series;

(d) the dates at which dividends, if any, shall be payable;

(e) the redemption rights and price or prices, if any, for shares of the series;

(f) the terms and amount of any sinking fund provided for the purchase or redemption of shares of the series;

(g) the amounts payable on shares of the series in the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Corporation;

(h) whether the shares of the series shall be convertible into shares of any other class or series, or any other security, of the Corporation or any other corporation, and, if so, the specification of such other class or series or such other security, the conversion price or prices or rate or rates, any adjustments thereof, the date or dates as of which such shares shall be convertible and all other terms and conditions upon which such conversion may be made;

(i) restrictions on the issuance of shares of the same series or of any other class or series; and

(j) the voting rights, if any, of the holders of shares of the series; provided, that, except as otherwise provided by the laws of the State of Delaware, no share of Preferred Stock of any series shall be entitled to more than one vote per share of Preferred Stock.

Except as may be provided in this Certificate of Incorporation or in a Preferred Stock Designation, the Common Stock shall have the exclusive right to vote for the election of directors and for all other purposes, and holders of Preferred Stock shall not be entitled to receive notice of any meeting of stockholders at which they are not entitled to vote. The number of authorized shares of Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority of the shares of all classes of stock of the Corporation entitled to vote for the election of directors, considered for the purposes of this Article Fourth as one class of stock, without a vote of the holders of the Preferred Stock, or of any series thereof, unless a vote of any such holders is required pursuant to any Preferred Stock Designation.

The Corporation shall be entitled to treat the person in whose name any share of its stock is registered as the owner thereof for all purposes and shall not be bound to recognize any equitable or other claim to, or interest in, such share on the part of any other person, whether or not the Corporation shall have notice thereof, except as expressly provided by applicable law.

FIFTH: The Corporation is to have perpetual existence.

SIXTH: The private property of the stockholders of the Corporation shall not be subject to the payment of corporate debts to any extent whatever.

SEVENTH: The number of directors shall be fixed from time to time exclusively by the Board of Directors pursuant to a resolution adopted by a majority of the total

number of authorized directors (whether or not there exist any vacancies in previously authorized directorships at the time any such resolution is presented to the Board of Directors for adoption). At the 1983 annual meeting of stockholders, the directors shall be divided into three classes, as nearly equal in number as possible, with the term of office of the first class to expire at the 1984 annual meeting of stockholders, the term of office of the second class to expire at the 1985 annual meeting of stockholders and the term of office of the third class to expire at the 1986 annual meeting of stockholders. At each annual meeting of stockholders following such initial classification and election, directors elected to succeed those directors whose terms expire shall be elected for a term of office to expire at the third succeeding annual meeting of stockholders after their election, unless, by reason of any intervening changes in the authorized number of directors, the board shall designate one or more of the then expiring directorships as directorships of another class in order more nearly to achieve equality of number of directors among the classes.

Notwithstanding the rule that the three classes shall be as nearly equal in number of directors as possible, in the event of any change in the authorized number of directors, each director then continuing to serve as such shall nevertheless continue as a director of the class of which he is a member until the expiration of his current term, or his prior death, resignation or removal. If any newly created directorship may, consistently with the rule that the three classes shall be as nearly equal in number of directors as possible, be allocated to one of two or more classes, the Board of Directors shall allocate it to that of the available classes whose term of office is due to expire at the earliest date following such allocation.

Vacancies resulting from any increase in the authorized number of directors or any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause may be filled only by a majority vote of the directors then in office, though less than a quorum, and directors so chosen shall hold office for a term expiring at the annual meeting of stockholders at which the term of office of the class to which they have been elected expires. No decrease in the number of authorized directors shall shorten the term of any incumbent director.

Subject to the rights of the holders of any series of Preferred Stock or any other series or class of stock, as provided herein or in any Preferred Stock Designation, to elect additional directors under specific circumstances, any director may be removed from office at any time, but only for cause and only by the affirmative vote of the holders of at least a majority of the shares of all classes of stock of the Corporation entitled to vote for the election of directors, considered for the purposes of this Article Seventh as one class of stock.

No director of the Corporation shall be liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the Corporation or its stockholders, (ii) for

acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the Delaware General Corporation Law, or (iv) for any transaction from which the director derived an improper personal benefit. No repeal or modification of this paragraph, directly or by adoption of an inconsistent provision of this Certificate of Incorporation, by the stockholders of the Corporation shall be effective with respect to any cause of action, suit, claim or other matter that, but for this paragraph, would accrue or arise prior to such repeal or modification.

EIGHTH: Unless otherwise determined by the Board of Directors, no holder of stock of the Corporation shall, as such holder, have any right to purchase or subscribe for any stock of any class which the Corporation may issue or sell, whether or not exchangeable for any stock of the Corporation of any class or classes and whether out of unissued shares authorized by the Certificate of Incorporation of the Corporation as originally filed or by any amendment thereof or out of shares of stock of the Corporation acquired by it after the issue thereof.

NINTH: Whenever a compromise or arrangement is proposed between this Corporation and its creditors or any class of them and/or between this Corporation and its stockholders or any class of them, any court of equitable jurisdiction within the State of Delaware may, on the application in a summary way of this Corporation or of any creditor or stockholder thereof, or on the application of any receiver or receivers appointed for this Corporation under the provisions of section 291 of the General Corporation Law of the State of Delaware (the "GCL") or on the application of trustees in dissolution or of any receiver or receivers appointed for this Corporation under the provisions of section 279 of the GCL order a meeting of the creditors or class of creditors, and/or of the stockholders or class of stockholders of this Corporation, as the case may be, to be summoned in such manner as the said court directs. If a majority in number representing three-fourths in value of the creditors or class of creditors, and/or of the stockholders or class of stockholders of this Corporation, as the case may be, agree to any compromise or arrangement and to any reorganization of this Corporation as consequence of such compromise or arrangement, the said compromise or arrangement and the said reorganization shall, if sanctioned by the court to which the said application has been made, be binding on all the creditors or class of creditors, and/or on all the stockholders or class of stockholders, of this Corporation, as the case may be, and also on this Corporation.

TENTH:

1. **Amendment of Certificate of Incorporation.** The corporation reserves the right to amend, alter, change or repeal any provision contained in this Certificate of Incorporation, in the manner hereafter set forth, and all rights conferred upon stockholders herein are granted subject to this reservation.

- A. Except as provided in paragraphs 1(B) and (2) of this Article Tenth and in Article Eleventh, any provision of this Certificate of Incorporation may be amended, altered, changed or repealed in the manner now or hereafter prescribed by the statutes of the State of Delaware.
- B. Notwithstanding any of the provisions of this Certificate of Incorporation or any provision of law which might otherwise permit a lesser vote or no vote, but in addition to any affirmative vote of holders of any particular class or series of stock of the Corporation required by law or this Certificate of Incorporation, the affirmative vote of the holders of at least the following percentages of the shares of all classes of stock of the Corporation entitled to vote for the election of directors, considered for this purpose as one class of stock, shall be required to amend, alter, change or repeal, or to adopt any provisions inconsistent with, the indicated provisions of this Certificate of Incorporation:
 - (i) 80% in the case of Article Seventh or Article Thirteenth; and
 - (ii) 90% in the case of Article Twelfth.

The foregoing paragraphs 1(B)(i) and (ii) of this Article Tenth may not be amended so as to alter the stockholder vote required by either such paragraph or to adopt any provisions inconsistent with these provisions, except by an amendment that is itself approved by the affirmative vote of the holders of at least the percentage of all shares of all classes of stock of the Corporation as is required to amend the provision or provisions of this Certificate of Incorporation to which such amendment relates.

2. **By-laws.** The Board of Directors is expressly authorized to adopt, alter, amend and repeal the By-laws of the Corporation, in any manner not inconsistent with the laws of the State of Delaware or of the Certificate of Incorporation of the Corporation, subject to the power of the holders of capital stock of the Corporation to adopt, alter or repeal the By-laws made by the Board of Directors; *provided*, that any such adoption, amendment or repeal by stockholders shall require the affirmative vote of the holders of at least 66 2/3% of the shares of all classes of stock of the Corporation entitled to vote for the election of directors, considered for this purpose as one class of stock. This paragraph 2 of Article Tenth may not be amended so as to alter the stockholder vote specified hereby, nor may any provisions inconsistent with these provisions be adopted, except by an amendment that is itself approved by the affirmative vote of the holders of at least 66 2/3% of

the shares of all classes of stock of the Corporation entitled to vote for the election of directors, considered for this purpose as one class of stock.

ELEVENTH:

1. Except as set forth in paragraph 2 of this Article Eleventh, the affirmative vote or consent of the holders of 80% of the shares of all classes of stock of the Corporation entitled to vote for the election of directors, considered for the purposes of this Article as one class, shall be required (a) for the adoption of any agreement for the merger or consolidation of the Corporation with or into any Other Corporation (as hereinafter defined), or (b) to authorize any sale, lease, exchange, mortgage, pledge or other disposition of all, or substantially all of the assets of the Corporation or any Subsidiary (as hereinafter defined) to any Other Corporation, or (c) to authorize the issuance or transfer by the Corporation of any Substantial Amount (as hereinafter defined) of securities of the Corporation in exchange for the securities or assets of any Other Corporation. Such affirmative vote or consent shall be in addition to the vote or consent of the holders of the stock of the Corporation otherwise required by law, the Certificate of Incorporation of the Corporation or any agreement or contract to which the Corporation is a party.

2. The provisions of paragraph 1 of this Article Eleventh shall not be applicable to any transaction described therein if such transaction is approved by resolution of the Board of Directors of the Corporation; *provided* that a majority of the members of the Board of Directors voting for the approval of such transaction were duly elected and acting members of the Board of Directors prior to the time any such Other Corporation may have become a Beneficial Owner (as hereinafter defined) of 5% or more of the shares of stock of the Corporation entitled to vote for the election of directors.

3. For the purposes of paragraph 2 of this Article, the Board of Directors shall have the power and duty to determine for the purposes of this Article Eleventh, on the basis of information known to such Board, if and when any Other Corporation is the Beneficial Owner of 5% or more of the outstanding shares of stock of the Corporation entitled to vote for the election of directors. Any such determination shall be conclusive and binding for all purposes of this Article Eleventh.

4. As used in this Article Eleventh, the following terms shall have the meanings indicated:

"Other Corporation" means any person, firm, corporation or other entity, other than a subsidiary of the Corporation.

"Subsidiary" means any corporation in which the Corporation owns, directly or indirectly, more than 50% of the voting securities.

"Substantial Amount" means any securities of the Corporation having a then fair market value of more than \$500,000.

An Other Corporation (as defined above) shall be deemed to be the "Beneficial Owner" of stock if such Other Corporation or any "affiliate" or "associate" of such Other Corporation (as those terms are defined in Rule 12b-2 promulgated under the Securities Exchange Act of 1934 (15 U.S.C. 78 aaa *et seq.*), as amended from time to time), directly or indirectly, controls the voting of such stock or has any options, warrants, conversion or other rights to acquire such stock.

5. This Article Eleventh may not be amended, revised or revoked, in whole or in part, except by the affirmative vote or consent of the holders of 80% of the shares of all classes of stock of the Corporation entitled to vote for the election of directors, considered for the purposes of this Article Eleventh as one class of stock.

TWELFTH:

1. The following definitions shall apply for the purpose of this Article Twelfth only:

- A. "Announcement Date" shall mean the date of first public announcement of the proposal of a Business Combination.
- B. "Business Combination" shall mean:
 - (i) any merger or consolidation of the Corporation or any Subsidiary with (a) any Related Person, or (b) any other corporation (whether or not itself a Related Person) which is, or after such merger or consolidation would be, an Affiliate of a Related Person; or
 - (ii) any sale, lease, exchange, mortgage, pledge, transfer or other disposition (in one transaction or a series of transactions) to or with any Related Person or any Affiliate of any Related Person of any assets of the Corporation or any Subsidiary having an aggregate Fair Market Value of \$500,000 or more; or
 - (iii) the issuance or transfer by the Corporation or any Subsidiary (in one transaction or a series of transactions) of any securities of the Corporation or any Subsidiary to any Related Person or any Affiliate of any Related Person in exchange for cash, securities or other property (or a combination thereof) having an aggregate Fair Market Value of \$500,000 or more; or
 - (iv) the adoption of any plan or proposal for the liquidation or dissolution of the Corporation proposed by or on behalf of any Related Person or any Affiliate of any Related Person; or

- (v) any reclassification of securities (including any reverse stock split), or recapitalization of the Corporation, or any merger or consolidation of the Corporation with any of its Subsidiaries or any other transaction (whether or not with or into or otherwise involving the Related Person) which has the effect, directly or indirectly, of increasing the proportionate share of the outstanding shares of any class of equity or convertible securities of the Corporation or any Subsidiary which is directly or indirectly owned by any Related Person or any Affiliate of any Related Person.
- C. "Consideration Received" shall mean the amount of cash and the Fair Market Value, as of the Consummation Date, of consideration other than cash received by the stockholder. In the event of any Business Combination in which the Corporation survives, the consideration other than cash shall include shares of any class of outstanding Voting Stock retained by the holders of such shares.
- D. "Consummation Date" shall mean the date upon which the Business Combination is consummated.
- E. "Continuing Director" shall mean any member of the Board of Directors of the Corporation who is unaffiliated with the Related Person and who was a member of the Board of Directors prior to the time that the Related Person became a Related Person, and any successor of a Continuing Director who is unaffiliated with the Related Person and is recommended to succeed a Continuing Director by a majority of the Continuing Directors then on the Board of Directors.
- F. "Determination Date" shall mean the date upon which a Related Person became a Related Person.
- G. "Exchange Act" shall mean the Securities Exchange Act of 1934 as in effect on May 1, 1983.
- H. "Fair Market Value" shall mean: (i) in the case of stock, the highest closing sale price during the 30-day period immediately preceding the date in question of a share of such stock on the principal United States securities exchange registered under the Exchange Act on which such stock is listed, or, if such stock is not listed on any such exchange, the highest closing bid quotation with respect to a share of such

stock during the 30-day period preceding the date in question on the National Association of Securities Dealers, Inc. Automated Quotations System or any system then in use or, if no such quotations are available, the fair market value on the date in question of a share of such stock as determined by the Board of Directors in good faith; and (ii) in the case of property other than cash or stock, the fair market value of such property on the date in question as determined by the Board of Directors in good faith.

- I. "Related Person" shall mean any individual, firm, corporation or other entity (other than the Corporation or any Subsidiary) which, together with its Affiliates and Associates (as such terms are defined in Rule 12b-2 under the Exchange Act) and with any other individual, firm, corporation or other entity (other than the Corporation or any Subsidiary) with which it or they have any agreement, arrangement or understanding with respect to acquiring, holding or disposing of Voting Stock, beneficially owns (as defined in Rule 13d-3 of the Exchange Act, except that such term shall include any Voting Stock which such person has the right to acquire, whether or not such right may be exercised within 60 days), directly or indirectly, more than twenty percent of the voting power of the outstanding Voting Stock.
- J. "Subsidiary" shall mean any corporation in which a majority of the capital stock entitled to vote generally in the election of directors is owned, directly or indirectly, by the Corporation.
- K. "Voting Stock" shall mean all of the then outstanding shares of the capital stock of the Corporation entitled to vote generally in the election of directors.

2. In addition to the affirmative vote otherwise required by law or any provision of this Certificate of Incorporation (including without limitation Article Eleventh), except as otherwise provided in paragraph 3, any Business Combination shall require the affirmative vote of the holders of 90% of all Voting Stock, voting together as a single class.

Such affirmative vote shall be required notwithstanding any other provision of this Certificate of Incorporation or any provision of law or of any agreement with any national securities exchange which might otherwise permit a lesser vote or no vote, and such affirmative vote shall be required in addition to any affirmative vote

of the holders of any particular class or series of the Voting Stock required by law or by this Certificate of Incorporation.

3. The provisions of paragraph 2 of this Article Twelfth shall not be applicable to any particular Business Combination, and such Business Combination shall require only such affirmative vote as is required by law, any other provision of this Certificate of Incorporation (including Article Eleventh), or any agreement with any national securities exchange, if, in the case of a Business Combination that does not involve any Consideration Received by the stockholders of the Corporation, solely in their respective capacities as stockholders of the Corporation, the condition specified in the following paragraph A is met, or, in the case of any other Business Combination, the conditions specified in either of the following paragraphs A and B are met:

- A. The Business Combination shall have been approved by a majority of the Continuing Directors, it being understood that this condition shall not be capable of satisfaction unless there is at least one Continuing Director.
- B. All of the following conditions shall have been met:
 - (i) The form of the Consideration Received by holders of shares of a particular class of outstanding Voting Stock shall be in cash or in the same form as the Related Person has paid for shares of such class of Voting Stock within the two-year period ending on and including the Determination Date. If, within such two-year period, the Related Person has paid for shares of any class of Voting Stock with varying forms of consideration, the form of Consideration Received per share by holders of shares of such class of Voting Stock shall be either cash or the form used to acquire the largest number of shares of such class of Voting Stock acquired by the Related Person within such two-year period.
 - (ii) The aggregate amount of Consideration Received per share by holders of each class of Voting Stock in such Business Combination shall be at least equal to the higher of the following (it being intended that the requirements of this paragraph B(ii) shall be required to be met with respect to every such class of Voting Stock outstanding, whether or not the Related Person has previously acquired any shares of that particular class of Voting Stock):
 - (a) (if applicable) the highest per share price (including any brokerage commissions, transfer taxes and soliciting dealers' fees)

paid by the Related Person for any shares of that class of Voting Stock acquired by it within the two-year period immediately prior to the Announcement Date or in the transaction in which it became a Related Person, whichever is higher; or

- (b) the Fair Market Value per share of such class of Voting Stock on the Announcement Date; or
 - (c) in the case of any class of preferred stock, the highest preferential amount per share to which the holders of shares of such class of Voting Stock are entitled in the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation.
- (iii) After such Related Person has become a Related Person and prior to the consummation of such Business Combination: (a) except as approved by a majority of the Continuing Directors, there shall have been no failure to declare and pay at the regular date therefor any full quarterly dividends (whether or not cumulative) on any outstanding preferred stock; (b) there shall have been (I) no reduction in the annual rate of dividends paid on the Common Stock (except as necessary to reflect any subdivision of the Common Stock), except as approved by a majority of the Continuing Directors, and (II) an increase in such annual rate of dividends as necessary to reflect any reclassification (including any reverse stock split), recapitalization, reorganization or any similar transaction which has the effect of reducing the number of outstanding shares of the Common Stock, unless the failure so to increase such annual rate is approved by a majority of the Continuing Directors; and (c) such Related Person shall have not become the beneficial owner of any newly issued share of Voting Stock directly or indirectly from the Corporation except as part of the transaction which results in such Related Person becoming a Related Person.
- (iv) After such Related Person has become a Related Person, such Related Person shall not have received the benefit, directly or indirectly (except proportionately, solely in such Related Person's capacity as a stockholder of the Corporation), of any loans, advances, guarantees, pledges or other financial assistance or any tax credits or other tax advantages provided by the Corporation, whether in anticipation of or in connection with such Business Combination or otherwise.

- (v) A proxy or information statement describing the proposed Business Combination and complying with the requirements of the Exchange Act and the rules and regulations thereunder (or any subsequent provisions replacing such act, rules or regulations) shall be mailed to all stockholders of the Corporation at least 30 days prior to the consummation of such Business Combination (whether or not such proxy or information statement is required to be mailed pursuant to the Exchange Act or subsequent provisions). Such proxy or information statement shall contain on the front thereof, prominently displayed, any recommendation as to the advisability or inadvisability of the Business Combination which the Continuing Directors, or any of them, may have furnished in writing to the Board of Directors.

4. A majority of the total number of authorized directors (whether or not there exist any vacancies in previously authorized directorships at the time any determination is to be made by the Board of Directors) shall have the power and duty to determine, on the basis of information known to them after reasonable inquiry, all facts necessary to determine compliance with this Article Twelfth including, without limitation, (1) whether a person is a Related Person, (2) the number of shares of Voting Stock beneficially owned by any person, (3) whether the applicable conditions set forth in paragraph (2) of Section C have been met with respect to any Business Combination, and (4) whether the assets which are the subject of any Business Combination or the Consideration Received for the issuance or transfer of securities by the Corporation or any Subsidiary in any Business Combination have an aggregate Fair Market Value of \$500,000 or more.

5. Nothing contained in this Article Twelfth shall be construed to relieve any Related Person from any fiduciary obligation imposed by law.

THIRTEENTH: Any action required or permitted to be taken by the stockholders of the Corporation must be effected at an annual or special meeting of stockholders of the Corporation and may not be effected by any consent in writing by such stockholders.

ACTIVE US PATENTS/APPLICATIONS & DISCLOSURES

Patent No.	Patent Title	Grant Date	Grant Amount	Issue Date	Expiration Date
1	00CXT0174W	Granted	776,181	13-Sep-1985	22-Nov-1988
2	00CXT0185D	Granted	571,596	13-Dec-1995	01-Apr-1997
3	80E131	Granted	354,840	04-Mar-1982	12-Jun-1984
4	82E035	Granted	441,195	12-Nov-1982	03-Sep-1985
5	85E018	Granted	759,193	28-Jul-1985	27-Oct-1987
6	86E008	Granted	849,093	07-Apr-1986	08-Apr-1991
7	90E052	Granted	591,164	01-Oct-1990	23-Jun-1992
8	92E030	Granted	308,155,500	22-Nov-1993	03-Oct-1995
9	93E032	Granted	233,289	28-Apr-1994	25-Feb-1997
10	93E087	Granted	307,202	16-Sep-1994	17-Oct-1995
11	94E005	Granted	186,328	15-Feb-1994	04-Jun-1996
12	94E059	Granted	308,514,508	11-Aug-1995	01-Dec-1996
13	95E002	Granted	515,403	15-Aug-1995	02-Jun-1998
14	95E003	Granted	308,537,378	28-Sep-1995	03-Mar-1998
15	95E056	Granted	844,762	10-May-1996	19-May-1998

IP Number	IP Title	Status	Amount	Start Date	End Date	Exhibit
16	95E071 Extended Time Tracking and Peak Energy In-Window Demodulation for Use in a Direct Sequence Spread Spectrum System	Granted	08/568,053	08-Dec-1995	07-Jul-1998	
17	95E072 Variable Digital Automatic Gain Control in a Cordless Direct Sequence Spread Spectrum Telephone	Granted	08/568,161	08-Dec-1995	09-Jul-1998	
18	95E080 Method and Apparatus for Signal Quality Estimation in a Direct Sequence Spread Spectrum	Granted	09/348,491	08-Jan-2000	08-Oct-2001	
19	96E008 Ultra-Clean Voltage Power Supply Generator	Granted	08/892,444	14-Jul-1997	11-Apr-2000	
20	97RSS036 An LC-VCO Charge-Pump and Loop-Filter Architecture for Improved Noise-Immunity in Integrated Phase-Locked Loops	Granted	09/409,509	30-Sep-1998	28-Aug-2001	
21	97RSS053 Timing Estimation in Mobile Communication Systems Using Parabolic Interpolator	Granted	09/163,840	30-Sep-1998	17-Apr-2001	
22	97RSS080 A Method and an Apparatus for Positioning System Assisted Cellular Radiotelephone Handoff and Dropoff	Granted	09/025,982	10-Feb-1998	04-Dec-2001	
23	97RSS081 Cellular Radiotelephone Having Answering Machine/Voice Memo Capability with Parameter-Based Speech Compression and Decompression	Granted	08/028,619	20-Feb-1998	29-May-2001	
24	97RSS084 A Transistor Having a Novel Layout and an Emitter Having More Than One Feed Point	Granted	08/126,301	30-Jul-1998	22-May-2001	
25	97RSS088 Voltage Upconverter for Portable Time Divisional Multiple Access Radio	Granted	08/047,242	24-Mar-1998	20-Jun-2000	
26	97RSS100 Method and Apparatus for Automatic Gain Control With Improved Response Time and Stability	Granted	09/038,397	08-Mar-1998	14-Mar-2000	
27	97RSS105 Universal Radio Architecture for Low-Tier Personal Communication System	Granted	08/348,358	30-Nov-1994	15-Jul-1997	PCSI P036US Exhibit 2

Serial Number	Patent Title	Status	Pub. No.	Pub. Date	Grant Date	PCSI P009US Exhibit 2
55	97RSS291	Granted	08/110,811	24-Aug-1998	5,542,085	30-Jul-1996
56	97RSS311	Granted	09/161,154	25-Sep-1998	6,263,027	17-Jul-2001
57	97RSS312	Granted	09/103,418	24-Jun-1998	6,268,618	31-Jul-2001
58	97RSS323	Granted	08/103,897	24-Jun-1998	6,154,864	28-Nov-2000
59	97RSS324	Granted	09/103,899	24-Jun-1998	6,163,709	19-Dec-2000
60	97RSS325	Granted	09/103,898	24-Jun-1998	6,151,509	21-Nov-2000
61	97RSS343	Granted	09/104,732	25-Jun-1998	6,258,478	03-Jul-2001
62	97RSS347 (WCD)	Granted	09/109,987	30-Jun-1998	6,327,476	04-Dec-2001
63	97RSS348	Granted	09/060,425	14-Apr-1998	6,100,670	08-Aug-2000
64	97RSS381	Granted	09/163,885	30-Sep-1998	6,124,761	26-Sep-2000
65	97RSS393	Granted	09/081,542	19-May-1998	6,181,218	30-Jan-2001
66	97RSS450	Granted	09/059,588	29-Oct-1997	6,044,069	28-Mar-2000
67	97RSS451	Granted	09/056,572	07-Apr-1998	6,240,288	29-May-2001
68	97RSS458	Granted	08/635	14-Apr-1998	6,408,398	20-Apr-1999

Patent No.	Patent Title	Status	Amount	Effective Date	Expiration Date
69	69RSS482	Granted	09/087,315	29-May-1998	02-May-2000
70	69RSS484	Granted	09/021,888	11-Feb-1998	20-Feb-2001
71	69RSS474	Granted	09/016,242	30-Jan-1998	13-Jun-2000
72	69RSS479	Granted	09/153,008	11-Sep-1998	20-Feb-2001
73	69RSS480	Granted	09/073,725	07-May-1998	17-Apr-2001
74	69RSS495	Granted	09/201,843	30-Nov-1998	14-Aug-2001
75	69RSS497	Granted	09/203,001	30-Nov-1998	02-Oct-2001
76	69RSS528	Granted	08/184,428	30-Sep-1998	30-Jan-2001
77	69RSS009	Granted	08/108,847	01-Jul-1998	16-May-2000
78	69RSS014	Granted	08/148,568	04-Sep-1998	12-Dec-2000
79	69RSS015	Granted	08/144,404	31-Aug-1998	20-Nov-2001
80	69RSS058	Granted	08/160,613	24-Sep-1998	30-Oct-2001
81	69RSS134	Granted	08/134,177	14-Aug-1998	24-Apr-2001
82	69RSS178	Granted	08/222,686	29-Dec-1998	04-Dec-2001
83	69RSS202	Granted	08/170,029	13-Oct-1998	17-Oct-2000

Patent No.	Inventor	Title	Status	Pub. No.	Pub. Date	Term
84	98RSS238	Phase/Frequency Detector with Time-Delayed Inputs in a Charge Pump Based Phase Locked Loop and a Method for Enhancing the Phase Locked Loop Gain	Granted	09/383,779	29-Jul-1999	14-Nov-2000
85	98RSS255	Phase Lock Loop Used as Up Converter and for Reducing Phase Noise of an Output Signal	Granted	09/405,749	30-Sep-1999	03-Jul-2001
86	98RSS258	Gated delay-locked loop for clock generation applications	Granted	09/302,755	30-Apr-1999	27-Mar-2001
87	98RSS261	source-switched or gate-switched charge pump having cascoded output	Granted	09/302,666	30-Apr-1999	12-Dec-2000
88	98RSS287	Fully Integrated Broadband RF Voltage Amplifier with Enhanced Voltage Gain and Method	Granted	09/405,768	27-Sep-1999	24-Jul-2001
89	98RSS288	Low Noise Low Power Charge Pump System for Phase Lock Loop	Granted	09/405,752	27-Sep-1999	10-Apr-2001
90	98RSS271	System and Process for Shared Functional Block Communication Transceivers With GPS Capability	Granted	08/256,450	23-Feb-1999	27-Mar-2001
91	98RSS280	Power Amplifier Driver System for Wireless Handset	Granted	09/328,927	09-Jun-1999	15-Jan-2002
92	98RSS285	Power Amplification Using A Direct-Modulating Quadrature Mixer Topology	Granted	09/318,482	25-May-1999	23-Oct-2001
93	98RSS286	Envelope Peak and Trough Limiting to Improve Amplifier Efficiency and Distortion Characteristics	Granted	09/318,529	25-May-1999	05-Jun-2001
94	98RSS304	Phase-Locked Loop Having Temperature-Compensated Bandwidth Control	Granted	09/314,898	18-May-1999	03-Apr-2001
95	98RSS307	Log-Domain Filter Having a Variable Dynamic Range Window	Granted	09/322,401	28-May-1999	17-Jul-2001

Patent No.	Inventor	Title	Status	Amount	Effective Date	Expiration Date	Remarks
96	98RSS318	Six Inverting Amplifier Transconductance Stage and Methods for Its Use	Granted	08/385,225	27-Aug-1998	20-Feb-2001	
97	98RSS338	Method and Apparatus for Extending a VCO Tuning Range	Granted	08/498,378	03-Feb-2000	20-Mar-2001	
98	99RSS005	A Method and Apparatus for Improving RF Contact Positioning in an RF Test Socket	Granted	09/360,586	28-Jul-1999	08-May-2001	
99	99RSS015	Power Amplifier Operated as an Envelope Digital to Analog Converter with Digital Pre-Distortion	Granted	09/410,218	30-Sep-1999	03-Jul-2001	
100	99RSS025	System and Method For Variable Gain Coder-Decoder	Granted	09/378,325	20-Aug-1999	28-Jun-2001	
101	99RSS042	Differential Oscillator	Granted	09/388,957	25-Aug-1999	18-Jun-2001	
102	98RSS088	Peer-To-Peer Data Transfer Using Pre-Existing Caller ID Class FSK Signaling Infrastructure	Granted	08/328,048	08-Jun-1998	18-Oct-2001	
103	99RSS220	Method and Apparatus for Code Error Correction	Granted	08/131,078	01-Oct-1999	13-Feb-1999	PCSI P013US Exhibit 2
104	99RSS354	Apparatus and Method for Increasing Data Transmission Rate Over Wireless Communication Systems Using Spectral Shaping	Granted	088,080	28-Jul-1993	31-Jan-1995	
105	99RSS355	Apparatus and Method For Increasing Data Transmission Rate Over Wireless Communication Systems Using Spectral Shaping	Granted	147,148	03-Nov-1993	08-Apr-1996	
106	99RSS356	Apparatus and Method for Compensating for Limiter Induced Non-Linear Distortion in a Wireless Data Communication System	Granted	198,085	17-Feb-1994	02-Jul-1998	
107	99RSS357	Method of Internal Interference Cancellation in TDMA Receiver	Granted	09/495,893	01-Feb-2000	10-Jul-2001	

108	97RSS372 (PTD)	Compensation Technique Using MOS Capacitance	Granted	09/163,789	30-Sep-1998	6,087,886	11-Jul-2000	
109	97RSS088 (PTD)	CMOS Electrostatic Discharge Protection Circuit With Minimal Loading for High Speed Circuit Applications	Granted	09/163,675	30-Sep-1998	6,292,046	18-Sep-2001	
110	95E117	Effectively Differential, Multiple Input OR/NOR Gate Architecture	Granted	08/752,016	19-Nov-1988	5,945,848	31-Aug-1999	
111	97RSS005	A System and Method for a Monolithic Directional Microphone Array	Granted	08/874,874	20-Nov-1997	8,192,134	20-Feb-2001	
112	97RSS008	Method and Apparatus for Sensing an Audio Signal That is Sensitive to the Audio Signal and Insensitive to Background Noise	Granted	08/920,846	29-Aug-1997	8,072,882	06-Jun-2000	
113	97RSS103	Self-Test and Status Reporting System for Microcontroller-Controlled Devices	Granted	09/347,889	06-Jul-1998	8,104,304	15-Aug-2000	
114	97RSS460	Convolution Decoding Terminated by an Error Detection Block Code with Distributed Parity Bits	Granted	09/021,886	11-Feb-1988	6,198,190	06-Mar-2001	
115	98RSS114	Low-Voltage Dual-Modulus Prescaler Circuit Using Merged Pseudo-Differential Logic	Granted	09/163,862	30-Sep-1998	8,157,693	05-Dec-2000	
116	98RSS258	Interfaced Master Slave ECL Flip Flop	Granted	09/405,964	30-Sep-1999	8,191,629	20-Feb-2001	
117	00CXT0105T	Planar HBT-FET Device	Granted	949,901	23-Sep-1982	5,250,828	05-Oct-1993	
118	93E050	Small Size, High Speed GeAs Data Latch	Granted	727,858	28-Apr-1985	4,707,808	17-Nov-1987	
119	00CXT0191W	Method and Apparatus for Dual Demodulation of Mobile Channel Signals	Granted	484,712	28-Jun-1985	5,517,530	14-May-1998	
120	95E082	Echo Canceling Method and Apparatus in a Communication Device	Granted	08/568,843	07-Dec-1995	5,933,494	03-Aug-1998	
121	97RSS161	Dual Source for Constant and PTAT Current	Granted	565,424	30-Nov-1995	5,774,013	30-Jun-1998	PCSI P046US Exhibit 2
122	95E082	Frequency Error Compensation for Direct Sequence Spread Spectrum Systems	Granted	08/568,085	06-Dec-1995	5,732,111	24-Mar-1998	

Patent No.	Patent Title	Status	Amount	Effective Date	Expiration Date	Remarks
123	95E063	Granted	08/447,538	10-Nov-1988	24-Apr-2001	
124	95E063	Granted	08/568,058	08-Dec-1995	25-Aug-1998	
125	95E088	Granted	08/568,210	08-Dec-1995	27-Jul-1998	
126	95E088	Granted	08/325,108	03-Jun-1998	23-Oct-2001	
127	97RSS297DIV	Granted	08/467,455	07-Jun-1995	14-Jan-1997	PCSI P008US3 Exhibit 2
128	98RSS178	Granted	08/222,686	28-12-1998	04-Dec-2001	
129	97RSS156DIV	Granted	08/472,125	07-Jun-1995	28-Apr-1997	PCSI P008US2 Exhibit 2
130	97RSS220	Granted	07/989,210	31-Dec-1992	27-Dec-1994	PCSI P008US Exhibit 2
131	96E005 (PTD)	Granted	08/006,972	14-Jan-1998	14-Aug-2001	
132	97RSS010 (PTD)	Granted	08/046,011	23-Mar-1998	18-Dec-2001	
133	95E074	Granted	08/568,489	07-Dec-1995	27-Oct-1998	
134	97RSS081	Granted	08/573,128	15-Dec-1995	28-Aug-1997	PHS
135	97RSS104	Granted	08/898,217	19-Aug-1996	15-Jul-1997	PHS

DISPUTED WITH BOEING

00CXT0143W	Soft-Dedson Classifier	Granted	988,384	09-Dec-1992	BOE	5,361,379	01-Nov-1994
00CXT0085W	Resistive Planar Ring Double-Balanced Mixer	Granted	576,755	04-Sep-1990	BOE	5,125,111	23-Jun-1992
00CXT0096N (PTD)	Large Array MMIC Feedthrough	Granted	540,984	08-Jun-1990	BOE	5,132,848	21-Jul-1992
00CXT0098T	Stress-Free Chemo-Mechanical Polishing Agent for II-VI Compound Semiconductor Single Crystals and Method of Polishing	Granted	787,154	04-Nov-1991	BOE	5,157,876	27-Oct-1992
00CXT0101T	Technique for Doping MOCVD Grown Crystalline Materials Using Free Radical Transport of the Copant Species	Granted	856,940	18-Feb-1991	BOE	5,202,283	13-Apr-1993
00CXT0108T	Technique for Doping Mercury Cadmium Telluride MOCVD Grown Crystalline Materials Using Free Radical Transport of Elemental Indium and Apparatus Therefor	Granted	657,692	19-Feb-1991	BOE	5,308,660	26-Apr-1994
00CXT0113W	Moving Vehicle Classifier with Nonlinear Mapper	Granted			BOE	5,337,257	09-Aug-1994
00CXT0084T	Isolated Low Power Thyristor Gate Drive Circuit	Granted	740,465	03-Jun-1985	BOE	4,631,472	23-Dec-1988
00CXT0133W	Large Time-Bandwidth Chip Pulse Generator	Granted	102,924	08-Aug-1993	BOE	5,428,361	27-Jun-1995
00CXT0140N	Moving Vehicle Classifier With Iterative Deconvolver Estimator	Granted	76,077	11-Jun-1993	BOE	5,367,475	22-Nov-1994

US Pending Patent Applications filed with USPTO

CASE NO.	TITLE	STATUS	APP. NO.	FILING DATE	COMPL. DATE
00CXT0018W	VCO Tuning Curve Compensated Charge Pump	Pending	09/675,888	29-Sep-2000	
00CXT0040W	Current Synthesizer	Pending	09/792,680	23-Feb-2001	
00CXT0045W	Power amplifier with provisions for varying operating voltage based upon power amplifier output power	Pending	09/880,286	13-Jun-2001	
00CXT0070W	Multi-Level Power Amplifier	Pending	10/121,366	11-Apr-2002	
00CXT0072W	IC Capacitor Trimming Using Fuses	Pending	09/545,232	07-Apr-2000	
00CXT0263W	Longitudinally-Coupled Saw Filter Enhanced Frequency Selectivity	Pending	09/650,987	30-Aug-2000	
00CXT0308W	System for Closed Loop Power Control Using a Linear or a Non-Linear Power Amplifier	Pending	09/650,831	30-Aug-2000	
00CXT0310W	Transmitter Architecture having a Secondary Phase-Error Correction Loop including an Amplitude Reconstruction System	Pending	09/665,820	20-Sep-2000	
00CXT0323W	System for Allowing a TDMA/CDMA Portable Transceiver to Operate with Closed Loop Power Control	Pending	09/666,668	21-Sep-2000	
00CXT0325W	Multiple Step Switched Translation Loop for Power Amplifier Feedback Control	Pending	09/666,577	21-Sep-2000	
00CXT0350W	Dual-Feedback Translation Loop	Pending	09/616,285	27-Mar-2001	
00CXT0377W	Dynamically Biased Power Amplifiers	Pending	09/617,688	28-Mar-2001	
00CXT0484W	Digitally Controlled Bias Circuit for Amplifiers	Pending	09/623,488	30-Mar-2001	
00CXT0517W	Amplification Control Scheme for a Receiver	Pending	09/677,162	02-Oct-2000	
00CXT0521W	Terminal Arrangement for an Electrical Device	Pending	09/718,963	21-Nov-2000	
00CXT0523W	A Charge Pump Having Reduced Switching Noise	Pending	09/718,615	21-Nov-2000	
00CXT0526W	Fast Settling Charge Pump	Pending		01-Nov-2001	
00CXT0608W	Fast-Acquisition Phase-Locked Loop	Pending	09/722,772	27-Nov-2000	
00CXT0618W	Power Amplifier Circuit for Providing Constant Bias Current Over a Wide Temperature Range	Pending	09/772,717	30-Jan-2001	
00CXT0618W	Current Mirror Compensation System for Power Amplifiers	Pending			

00CXT0641W	Integrated on Chip VCO Calibration Algorithm to Extend VCO Tuning Range	Pending		02-Apr-2002		
00CXT0658W	Constant Current Biasing Circuit for Linear Power Amplifiers	Pending	09/893,398	21-Oct-2000		
00CXT0658W	Configurable Power Amplifier and Bias Control	Pending	09/915,533	05-Oct-2001		
00CXT0682W	Harmonic Cancellation Mixers	Pending	09/823,314	30-Mar-2001		
00CXT0718W	Bias Enhancement Circuit for Linear Amplifiers	Pending	09/715,871	15-Nov-2000		
00CXT0733W	Continuous Closed-Loop Power Control System Including Modulation Injection in a Wireless Transceiver Power Amplifier	Pending	09/704,930	02-Nov-2000		
00CXT0816W	Frequency Plan	Pending	09/823,880	30-Mar-2001		
01CXT0011W	Low Voltage Integrated Bandgap Reference for an HBT Linear Power Amplifier	Pending		30-Apr-2002		
01CXT0014W	Closed Loop Power Amplifier Control	Pending	09/280,709	30-Mar-2001		
01CXT0018W	Doherty Bias Circuit for Dynamically Compensating for Environmental Variations	Pending	09/851,788	10-Sep-2001		
01CXT0019W	Dual Mode PA Having a Common Controller	Pending	10/137,718	30-Apr-2002		
01CXT0149W	Systems for Controlling the Frequency of an Oscillator	Pending	09/823,318	30-Mar-2001		
01CXT0178W	System for Controlling the Amplitude of an Oscillator	Pending	09/823,285	30-Mar-2001		
01CXT0179W	Low Voltage Interface	Pending	09/823,881	30-Mar-2001		
01CXT0180W	Interference Reduction for Direct Conversion Receivers	Pending	09/823,313	30-Mar-2001		
01CXT0181W	Switched Capacitor for Analog Integrated Circuits	Pending	09/823,879	30-Mar-2001		
01CXT0201W	Method & Apparatus Multipath Signal Detection, Identification, and Monitoring for W-CDMA	Pending	09/275,032	12-Mar-2001		10/096,489
01CXT0202W	Method & Apparatus for Spread Spectrum Radio Signal Recovery in Wideband Spread Communication Systems	Pending	09/275,192	12-Mar-2001		10/096,445

01CXT0235W	A Stable Epitaxial Emitter Ballast for Heterojunction Bipolar Transistors (HBT's) by Modulated Emitter Cap Doping Profile	Pending	10/115,317	03-Apr-2002		
01CXT0341T (PTD)	A Low Current and High Performance BIFET Low Noise Amplifier (LNA)	Pending	10/057,098	23-Jan-2002		
95E080	Method and Apparatus for Signal Quality Estimation in a Direct Sequence Spread Spectrum...	Pending	568,330	08-Dec-1995		
95E082	Echo Canceling Method and Apparatus in a Communication Device	Pending	09/220,123	23-Dec-1998		
95E088	12 Chip Coded Spread Spectrum Modulation for Direct Conversion Radio Architectures in a Digital Cordless Telephone	Pending				
96E085	Intermediate Frequency Amplifier Circuit for Use in Receive and Transmit Modes	Pending	08/752,767	20-Nov-1986		
97RSS006	Method and Apparatus for Sensing an Audio Signal That is Sensitive to the Audio Signal and Insensitive to Background Noise	Pending	09/481,726	27-Jan-2000		
97RSS057	Multiple Half-Burst Phase Rotation for High Frequency Demodulation	Pending	09/164,534	30-Sep-1998		
97RSS063	Power Amplifier Saturation Prevention Method, Apparatus and Communication System Incorporating the Same	Pending	09/152,439	14-Sep-1988		
97RSS068	Device and Process for Coupling Multi-Band Transmitters and Receivers and Communication System Employing Same	Pending	09/160,677	11-Oct-2000		
97RSS069	Using a Low Frequency Timer to Restore Tuning to a High Frequency Timer	Pending	09/164,432	30-Sep-1988		
97RSS073 97RSS00N	A System and Method for Extending the Range of a Base Unit	Pending	09/072,198 10/039,441	31-Jul-2000 21-Dec-2000		
97RSS101	Automatic GSM Mobile Power	Pending	09/161,611	25-Sep-1998		
97RSS107 00N	Apparatus for and Method of Improving Efficiency of Transceivers in Radio Products	Pending	09/672,235	27-Sep-2000		

97RSS108	Cellular Telephone Keypad/Acoustic Isolation Device/LCD	Pending	09/408,885	29-Sep-1998		
97RSS115	Dual Mode Phone Architecture Utilizing a Single Transmit-Receive Switch	Pending	09/013,235	26-Jan-1998		
97RSS118CIP (WCD)	RF Architecture for Cellular Dual Band Telephones	Pending	08/386,257	31-Aug-1998		
97RSS124	Method and System for Efficiently Transmitting Energy from an RF Device	Pending	08/361,865	27-Jul-1998		
97RSS125	Wide Frequency Range Couplers and Detectors for Power Detection in Multiple Frequency Band Systems	Pending	08/081,702	20-May-1998		
97RSS127	Integrated Power Management Module	Pending	09/060,426	14-Apr-1998		
97RSS178	System and Method for Receiving A Signal	Pending	08/409,484	30-Sep-1998		
97RSS178/1	System and Method for Receiving A Signal	Pending	10/033,203	28-Dec-2001		
97RSS203	Device, System and Method for Low Noise Radio Frequency Transmission	Pending	08/160,690	25-Sep-1998		
97RSS205	Device and Process for Coupling Multi-Band Transmitters and Receivers and Communication System Employing Same	Pending	08/160,646	25-Sep-1998		
97RSS206	System and Process for Shared Frequency Source Multi-Band Transmitters and Receivers	Pending	08/203,645	01-Dec-1998		
97RSS329	Switchable High-Low Side Mixer for the Translational IC for Dual Mode Application	Pending	09/285,038	20-Apr-1998		
97RSS331	First Party Signalling for Call Waiting Calling Number Identification (CWCID) System	Pending	08/923,447	04-Sep-1997		
97RSS336	Direct Conversion Time Division Duplex, Radio, Direct Sequence Spread Spectrum Cordless Telephone	Pending	09/107,733	30-Jun-1998		
97RSS338	Techniques to Increase Data Transmission Rate of Spread Spectrum Communications Systems	Pending	09/325,107	03-Jun-1998		
97RSS347	System and Method for Wireless Voice and Computer Communications	Pending	09/300,582	27-Apr-1998		
97RSS347	System and Method for Wireless Voice and Computer Communications	Pending	08/974,769	09-Oct-2001		

97RSS392	Variable Gain Amplifier with High Linearity and Low Noise	Pending	09/163,692	30-Sep-1998		
97RSS371	Method for Programming a Radio Transceiver	Abandoned	09/410,217	30-Sep-1998		
97RSS392	Adaptive Wireless Communication Receiver	Pending	09/163,797	30-Sep-1998		
97RSS449	Traffic Channel Quality Estimation from a Digital Control Channel	Pending	09/046,080	23-Mar-1998		
97RSS450	Power Management System for a Mobile Station	Pending	09/499,911	06-Feb-2000		
97RSS460	Convolution Decoding Terminated by an Error Detection Block Code with Distributed Parity Bits	Published	08/761,259	16-Jan-2001		
97RSS481 CASE ABANDONED	Enhanced Keypad Control for Portable Communication Device	Pending	09/073,724	07-May-1998		
97RSS483	External Connector and Battery Extension Pack for a Portable Communication Device	Pending	09/137,194	20-Aug-1998		
97RSS494	Power Management System for a Mobile Unit by Reduced Neighbor Cell Scanning	Pending	09/094,534	26-May-1998		
97RSS503	Full-Duplex Speakerphone With Wireless Microphone	Pending	09/144,842	31-Aug-1998		
97RSS518	Turbo Decoding of Trellis-Coded Modulations	Pending	09/410,220	30-Sep-1998		
98RSS014	A Compact and Fast Cubic Function Generator	Pending	09/706,493	03-Nov-2000		
98RSS024	Method of and Apparatus for Adaptation of an Echo Canceller in a System With Multitasking	Pending	09/126,362	03-Aug-1998		
98RSS031	A Method and Apparatus for Dynamically Switching Between Speech Coding Techniques	Pending	09/153,631	15-Sep-1998		
98RSS064	System and Method for Providing a Trap and Patch Function to Low Power, Cost Conscious, and Space Constrained Applications	Pending	09/232,881	15-Jan-1998		
98RSS069	System and Method for Communication Parameter Determination	Pending	09/157,209	18-Sep-1998		
98RSS072	Apparatus and Method for Improving Power Control Loop Linearity	Pending	09/161,014	25-Sep-1998		

98RSS088	Multi-Line Recording Device Having Reduced Processing and Storage Requirements	Pending	09/183,263	28-Sep-1998		
98RSS097	Wireless Communications Device Allowing a Soft Handoff Procedure in a Mobile Communications System	Pending	09/342,165	28-Jun-1998		
98RSS112	Dynamic Range Reduction Circuitry for a Digital Communications Receiver	Pending	09/159,328	23-Sep-1998		
98RSS121	Frequency Hopping Spread Spectrum Modulation and Direct Sequence Spread Spectrum Modulation Cordless Telephone	Pending	09/137,198	20-Aug-1998		
98RSS165	A Method to Generate a Secure Wireless Link Between a Handset and Basestation in a Cordless Phone System Without Any Wired Connection ...	Pending	09/216,380	18-Dec-1998		
98RSS177	Method and Apparatus for Saving Power During Punctured Transmission of Mobile Communications	Pending	09/205,523	03-Dec-1998		
98RSS179	System and Method for Selecting Amplifiers in a Communications Device	Pending	09/222,063	29-Dec-1998		
98RSS180	System and Method for Selectively Interconnecting Amplifiers in a Communications Device	Pending	09/222,672	29-Dec-1998		
98RSS180	System and Method for Selectively Interconnecting Amplifiers in a Communications Device	Pending		23-Oct-2001		
98RSS189	Secondary Automatic Gain Control Loops for Direct Conversion CDMA Receivers	Pending	09/382,882	25-Aug-1999		
98RSS201	System and Process for Shared Functional Block CDMA and GSM Communication Transceivers	Pending	09/288,315	23-Apr-1999		
98RSS207	Method and System Which Uses Sound Wave Based Communication to Generate A Secure Wireless Link Between A Handset and Base Station	Pending	09/216,086	18-Dec-1998		
98RSS257	Programmable relaxation oscillator	Pending	09/302,754	30-Apr-1999		
98RSS276	System and Method for Amplifying a Cellular Radio Signal	Pending	09/408,754	30-Sep-1999		
98RSS280	Power Amplifier Driver System for Wireless Handset	Pending	09/328,927	08-Jun-1999		
98RSS283	Method and Apparatus for Filter Selection From Frequency Synthesizer	Pending	09/392,825	09-Sep-1999		

98RSS291	Mixer Circuit with On-Chip Transformer	Pending	09/371,311	10-Aug-1999	
98RSS321	Dual Tune Input-Integrated VCO on a Chip	Pending	09/708,921	06-Nov-2000	
98RSS347	Performance Improvement of Internet Protocols Over Wireless Connections	Pending	09/375,607	17-Aug-1999	
98RSS350	Programmable Frequency Divider	Pending	09/370,099	08-Aug-1999	
98RSS350	Frequency Divider with Low Harmonics	Pending	09/621,833	30-Mar-2001	
98RSS351	Packaging of Surface Acoustic Wave (SAW) Filters on a Multi Chip Module	Pending	09/455,108	06-Dec-1999	
98RSS396	Multi-Band Transceiver Having Multi-Slot Capability	Pending	09/387,038	31-Aug-1999	
98RSS012	System and Method for Cordless Telephonic Communication	Pending	09/756,039	05-Jan-2001	
98RSS025	System and Method For Variable Gain Code-Decoder	Pending	09/845,840	30-Apr-2001	
98RSS030	Multi-Band Filter System For Wireless Communication Receiver	Pending	09/330,848	11-Jun-1999	
98RSS032	Differential Oscillator	Pending	09/675,239	29-Sep-2000	
98RSS037	System and Method for Receiving Analog and Digital Signals	Pending	09/383,122	25-Aug-1999	
98RSS057	A Method to Combine the Detection of Slotted Tone and VMI/FSK Signals Integrated Within a Telephone	Pending	09/289,202	23-Apr-1999	
98RSS065	Direct Conversion Receiver	Pending	09/260,919	02-Mar-1999	
98RSS065	Direct Conversion Receiver	Pending	09/388,885	31-Aug-1999	
98RSS069	Peer-to-Peer Data Transfer Using Pre-existing Caller ID Class FSK Signaling Infrastructures	Pending	09/363,989	16-Jul-1999	
98RSS077	Local Area Internet Radio Receiver/Transmitter	Pending	09/407,148	28-Sep-1999	
98RSS078	System for Controlling a Class D Amplifier	Pending	09/614,198	21-Mar-2001	
98RSS082	System and Process for Supporting Multiple Wireless Standards With a Single Circuit Architecture	Pending	09/410,138	30-Sep-1999	
98RSS083	System for Using Adaptive Circuitry To Improve Performance and Provide Linearity and Dynamic Range on Demand	Pending	09/861,932	15-Jun-2001	

99RSS085	Avoiding Interference from a Potentially Interfering Transmitter in a Wireless Communication	Pending	08/394,189	13-Sep-1998		
99RSS085	Wireless Communications System Utilizing Directional Wireless Communication Device	Pending	08/821,110	28-Mar-2001		
99RSS086	Cellular Handset with Adjustable Analog to Digital Conversion	Pending	08/410,205	30-Sep-1999		
99RSS088	preprocessor and related frequency translator	Pending	09/281,058	02-Mar-1999		
99RSS098	preprocessor and related frequency translator	Pending	09/386,956	27-Aug-1999		
99RSS102	Direct Sequence Spread Spectrum System with Enhanced Forward Error Correction Code Feature	Pending	09/427,041	19-Oct-1998		
99RSS116	System and Method for Achieving Wireless Communications Coverage in a Local Area	Pending	08/408,287	29-Sep-1998		
99RSS130	Hands-Free Activation of a Personal Communication Device	Pending	08/388,909	15-Sep-1998		
99RSS136	Simple Dual Band Multi Time Slot Receiver Architecture	Pending	09/392,355	06-Sep-1999		
99RSS138	System of and Method for Compensating a Baseband Signal to Reduce Third Order Modulation Distortion	Pending	09/515,536	29-Feb-2000		
99RSS181	A Novel Technique for Generation of Phase/Frequency Modulated Signals	Pending	09/398,911	14-Sep-1998		
99RSS172	A Balun Circuit for Combining Differential Power Amplifier Outputs	Pending	09/388,883	31-Aug-1999		
99RSS174	A GmC Filter and Method for Suppressing Unwanted Signals Introduced by the Filter	Pending	09/663,848	18-Sep-2000		
99RSS198	Method and Apparatus for Multiple Phase Splitting for Dual Band IQ Subharmonic Mixer	Pending	08/506,302	17-Feb-2000		
99RSS213	Dynamically Varying Linearity System for an RF Front-End of a Communication Device	Pending	09/811,082	18-Mar-2001		
99RSS232	Smart Current System for Dynamically Varying the Operating current of a Frequency Source in a Receiver	Pending	09/793,744	28-Feb-2001		
99RSS287	System of and Method for Reducing or Eliminating the Unwanted Sideband in the Output of a Transmitter Comprising a Quadrature Modulator Followed by a	Pending	09/514,501	29-Feb-2000		

99RSS301	Translational Loop DMA Channel for High-Speed Asynchronous Data Transfer	Pending	09/550,852	17-Apr-2000		
99RSS305	Doherty Power Amplifier With Integrated Quarter Wave Transformer/Combiner Circuit	Pending	09/761,100	16-Jan-2001		
99RSS310	System of and Method for Reducing or Eliminating the Unwanted Sideband in a Signal Derived from the Output of a Quadrature Modulator	Pending	09/515,633	28-Feb-2000		
99RSS313	System for Associating User Selectable Information in Wireless Devices	Pending	09/842,601	28-Apr-2001		
99RSS316	Power Amplifier Saturation Detection and Compensation	Pending	09/651,801	30-Aug-2000		
99RSS358	Low-Power Method of Interference Cancellation in GSM Receiver	Pending	09/634,081	08-Aug-2000		
99RSS359	Signal Detector With Echo Cancellation	Pending	09/792,816	23-Feb-2001		
99RSS388	High Efficiency Multiple Power Level Amplifier	Pending	09/688,440	10-Oct-2000		
99RSS397	Non-Linear Transistor Circuits with Thermal Stability	Pending	09/871,517	31-May-2001		
99RSS404	System for Using a Local Wireless Network to Control a Device Within Range of the Network	Pending	09/658,729	11-Sep-2000		
99RSS405	System For Eight Phase 45 Degree Polyphase Filter With Amplitude Matching	Pending	09/666,501	16-Sep-2000		
99RSS408	Polyphase Tuning for Phase Calibration	Pending	09/823,289	30-Mar-2001		
99RSS410	Stacked Core Half-LO Mixer	Pending	09/668,879	25-Sep-2000		
99RSS422	Temperature Compensation Module	Pending	09/712,771	13-Nov-2000		
99RSS426	Trap and Patch System for Virtual Replacement of Defective Volatile Memory Cells	Pending	09/871,401	27-Sep-2000		
99RSS429	Zero-Overhead Symbol Rate Adaptation System for QVSF Code	Pending	09/718,985	22-Nov-2000		
99RSS461	Programmable Silent Ringing System for Communication Systems	Pending	09/650,543	30-Aug-2000		
99RSS468	System and Apparatus for a Direct Conversion Receiver and Transmitter	Pending	09/621,407	21-Jul-2000		

99RSS479	Even Order Non-Linearity Correction Feedback for Gilbert Style Mixers	Pending	09/811,133	16-Mar-2001		
99RSS497	Adaptive Configurable Demodulation System With Multiple Operating Modes	Pending	09/710,784	08-Nov-2000		
99RSS498	Digital Phase/Frequency Detector	Pending	09/799,822	05-Mar-2001		
99RSS500	Burst Detector	Pending	09/735,389	12-Dec-2000		
99RSS504	Variable-Slope Variable-Gain Amplifier	Pending	09/888,689	11-Oct-2000		
97RSS010 (PTD)	Methods for Wireless Testing of Integrated Circuits	Pending	09/784,689	16-Jan-2001		
98RSS288 (PTD)	Electrostatic Discharge Protection Circuit	Pending	09/738,127	15-Dec-2000		
00CXT0290T (PTD)	Improved Transformer Comprising Stacked Inductors	Pending	09/797,307	01-Mar-2001		
00CXT0335T (PTD)	On-Chip Transformers	Pending	09/779,402	08-Feb-2001		
00CXT0822W	Systems for Testing Integrated Circuits	Pending	09/822,920	30-Mar-2001		
97RSS064 CON	A Transistor Having a Novel Layout and an Emitter Having More Than One Feed Point	Pending	08/687,381	13-Oct-2000		
97RSS064 CIP	Transistor Layout	Pending	09/881,921	21-May-2001		
97RSS313	Method and Apparatus for Detecting and Correcting Errors Using Cyclic Redundancy Check	Pending	09/103,421	24-Jun-1998		
97RSS465	Envelope Feedforward Technique with Power Control for Efficient Linear RF Power Amplification	Pending	08/108,628	01-Jul-1998		
98RSS275	RF Transmitter with Extended Efficient Power Control Range	Pending	09/482,121	11-Jan-2000		
99RSS013	RF Transmitter with Extended Efficient Power Control Range	Pending	09/481,094	11-Jan-2000		

99RSS133	Apparatus and Method for Connecting a Cellular Telephone to a Universal Serial Bus	Pending	09/312,064	13-May-1999	
99RSS339 (PTD)	Electrical Contact for Compound Semiconductor Device and Method For Forming Same	Pending	08/675,023	28-Sept-2000	
99RSS385 (PTD)	Electrical Contact for Compound Semiconductor Device & Method for Forming Same	Pending	09/580,323	28-May-2000	
00CXT0289T (PTD)	Modified HBT Collector Design for Increased Robustness	Pending	10/034,880	28-Dec-2001	
99RSS143 (PTD)	Electrostatic Discharge Protection Circuit	Pending	08/519,214	3-Mar-2001	
99RSS081 (PID)	Critical Path Adaptive Power Control	Pending	08/814,921	22-Mar-2001	
97RSS475	Polarization-Adaptive Antenna Transmit Diversity System	Pending	09/103,417	24-Jun-1998	
97RSS477	Using Channel Loading Statistics to Determine Whether to Search for a New Channel in a Wireless Communication System	Pending	09/201,076	30-Nov-1998	
98RSS173	Muting Method for ADPCM Coded Speech Signal Without Performance Critical Threshold Comparisons	Pending	09/234,243	20-Jan-1999	
98RSS284	Efficient Accurate Controller for Envelope Feedforward Power Amplifiers	Pending	09/409,818	30-Sep-1999	
99RSS133	Apparatus and Method for Connecting a Cellular Telephone to a Universal Serial Bus	Pending	09/312,064	13-May-1999	
99RSS292	Device-Independent Interface for Embedded Telephone Applications to a Wireless Spread-Spectrum Link and Audio Processor	Pending	09/479,127	07-Jan-2000	
00CXT0430/W (PID)	System and Method for Processing Audio and Video Data in a Wireless Handset	Pending	09/631,511	03-Aug-2000	
00CXT0431/W (PID)	System and Method for Processing Audio and Video Data in a Wireless Handset	Pending	09/631,508	03-Aug-2000	
96E005/1	Pre-Quantization in Motion Compensated Videocoding	Pending	09/828,535	08-Apr-2001	

(PTD)					
98RSS004 (MindSpeed)	System and Method for Adaptive Multirate (AMR) Vocoder	Pending	09/080,013	15-May-1998	
99RSS284 (PCD)	Speaker-Phone System Change and Double-Talk Detection	Pending	09/075,291	29-Sep-2000	

Innovation Disclosures Assigned to Outside Counsel in Progress

000CXT0070W	C Capacitor Trimming Using Fuses	WCD	Assigned	
000CXT0284W	Integrated Auto-Calibration of On Chip VCOs by Winner Selection Algorithm, and Sensitivity Adjustment by Coarse and Fine Varactor Tuning	WCD	Assigned-FBD	
000CXT0522W	Differential-Phase-Locked-Loop Method of Non-Constant Envelope Modulation	WCD	Assigned	10/207, 328
000CXT0818W	Adaptive Matching System	WCD	Assigned	
000CXT0617W	Desensitizing Bias Circuit to Prevent RF Interaction	WCD	Assigned	
000CXT0620W	Method for Determining Quality of Dielectric Laminated Substrate	WCD	Assigned	
000CXT0841W	Integrated on Chip VCO Calibration Algorithm to Extend VCO Tuning Range	WCD	Assigned	
01CXT0001W	Using Trimming Hooks to Integrate a Circuit that can Calibrate the VCO Independently Each Time at Circuit Power-up	WCD	Assigned	
01CXT0002W	Monitor the Varactor Capacitance of the Process Thru Process Control Monitor	WCD	Assigned	
01CXT0184W	Supply & Bias Enhancements for Conexant Power Amplifiers. Second Generation PMICPA	WCD	Assigned-FBD	10/167, 550
97RSS398	An Current Compensation Method in Replica Circuit Where the Product of the Transconductance and Resistance is Kept Constant	WCD	Assigned	
99RSS079	Method for Implementing a Radio Transceiver with Digital Signal Processing	WCD	Assigned	
99RSS128	Capacitor Calibration for Current-Tuned Filters	WCD	Assigned	
99RSS200	A Multiple Cascaded DS Offset Correction Scheme is Proposed For Use in Correcting Offsets Caused By Multiple Cascaded High Gain Baseband Stages in Transceivers.	WCD	Assigned	
99RSS246	Switchable Gain Low Noise Amplifier for DCMA/AMPS Applications	WCD	Assigned	
99RSS409	Gain Calibration for Linearity-On-Demand Systems	WCD	Assigned	
00CXT0254W	Power Amp Control Driver Providing Over-Current Protection and	WCD	Assigned-FBD	

Control Linearization					
00CXT0524W	Feedback-and-Feedforward Closed-Loop Power Control for Amplitude-Modulated Signals		WCD	Assigned-FBD	
02CXT0004W	Software Defined Transmitter for WCDMA, GSM, EDGE, TDMA		WCD	Assigned	
01CXT0288W	GSM/GPRS Transmitter with Synchronous Oscillator Feed		WCD	Assigned	
01CXT0294W	CMOS/BICMOS Subharmonic Mixer for Improved Noise, Power Consumption and Headroom		WCD	Assigned	
01CXT0355W	Use of NiV as Seed Layer for Electroplated Backside Metalization of 311-V Semiconductor Circuits		WCD	Assigned	

Innovation Disclosures on Hold Status

Innovation ID	Innovation Description	WCD	Hold/Assigned
00CXT0052W	High Performance Dual Tone Detections in Presence of Speech Interference	WCD	Hold/Assigned
00CXT0054W	Gated Li-Ion Battery Charger	WCD	Hold-FBD/Assigned
00CXT0262W	Power Amplifier Saturation Control Scheme	WCD	Hold-FBD/Assigned
00CXT0463W	A GFSK/GMSK Detector with Enhanced Reception Performance in Cochannel Interference and A WGN Channels	WCD	Hold-FBD/Assigned
00CXT0471W	Voltage Regulator Based on Switchable Capacitor Array or Simply "Digital LDO"	WCD	Hold-FBD/Assigned
00CXT0535W	Variable RF Gain Power Amplifier Driver	WCD	Hold-FBD/Assigned
00CXT0538W	Programmable Dual Power Amplifier Drivers for CDMA Applications	WCD	Hold-FBD/Assigned
00CXT0885W	A FET/HBT Bias Circuit for Low Voltage Wireless Handsets	WCD	Hold-FBD
00CXT0899W	High Efficiency Adaptable Power Amplifier	WCD	Hold-FBD
00CXT0767W	DC Offset Correction Technique for a Direct Conversion Bluetooth Receiver	WCD	Hold-FBD
00CXT0773W	A Design Technique for the Thermal Stabilization of Wireless Power Amplifiers	WCD	Hold-FBD
00CXT0796W	Phase Detector Based Upon Look-Up Table	WCD	Hold-FBD
00CXT0798W	Fast Response Low If Filter Using Differential Peak Detectors	WCD	Hold-FBD
00CXT0805W	Acquisition Speed Up for Fractional-N Synthesizers	WCD	Hold-FBD
00CXT0807W	Resistor Calibration Algorithm	WCD	Hold-FBD
01CXT0015W	Calibration of Device Using a Linear PA	WCD	Hold/Assigned
01CXT0017W	Optimum Doherty Topology for Broad Bandwidth	WCD	Hold/Assigned
01CXT0063W	New Self Oscillating AM Modulator	WCD	Hold-FBD
01CXT0100W	Linearized Split-Balancing Technique for Power Amplifiers	WCD	Hold-FBD
01CXT0123W	Dynamically Tuned Embedded Antenna	WCD	Hold-FBD
01CXT0156W	An Algorithm for Removing Unwanted DC Offset from the Desired Signal at the GSM Receiver	WCD	Hold-FBD
01CXT0167W	Detection of Strong Unwanted Interfering Signals in Direct	WCD	Hold-FBD

01CXT0353W	Highly Accurate 45 Signal Generation with Application to Sub-Harmonic Mixers	WCD	Hold-FBD		
02CXT0003W	Switchable VCO Performance in a Time-Division Duplex Communication Device	WCD	Hold-FBD		
02CXT0005W	Varying VCO Performance as Receiver Signal Level Changes	WCD	Hold-FBD		
99RSS387	System for Manufacturing a Stacked Plate Capacitor Having an Interconnected Metal Plate	WCD	Hold-FBD/Assigned		
99RSS423	Improvements to Linearization and High Efficiency in Power Amplifiers	WCD	Hold-FBD/Assigned		
99RSS424	Linearization Improvement in PAs using Split Stage Bias	WCD	Hold-FBD/Assigned		
99RSS488	Blue Tooth I/O Saving Front End Architecture and Device	WCD	Hold-FBD/Assigned		
01CXT0329W	Improving Wafer Yield During Wafer Scribe and Break by Adding a Protective Film at Die Corners	WCD	Hold-FBD		

Innovation Disclosure/CLOSED Status

99RSS494	Bandgap Regulator Using Capacitive Charge Pumping	WCD	CLOSED	
00CXT0251W	Symmetrically-Driven Oscillator with Vertical Structure	WCD	CLOSED	
00CXT0823W	Power Amplifier Having Tunable Bias Ports	WCD	CLOSED	
00CXT0833W	Noise Coupling Reduction Scheme in Dual Fractional-N/Integer-N Frequency Synthesizer	WCD	CLOSED	
00CXT0635W	Quantization Noise Reduction Delta-Sigma Fractional-N Frequency Synthesizer with Digital Frequency Doubler	WCD	CLOSED	
00CXT0636W	Improved Modulus Control Method in Frequency Synthesizers with an Embedded D Flip-Flop	WCD	CLOSED	
00CXT0798W	Feedforward LNA/Mixer Switched Gain Block Architecture	WCD	CLOSED	
00CXT0808W	High Q Digital Varactor	WCD	CLOSED	
01CXT0038W	A CMOS RF Programmable Driver for Bluetooth Applications	WCD	CLOSED	
01CXT0154W	Dynamic Calibration of a Block in a GSM Power Amplifier Control (PAC) Loop with Application to a Block that Converts the Linear Scale to Log Scale	WCD	CLOSED	
01CXT0299W	Active Temperature Compensated RF Power Detector	WCD	CLOSED	
01CXT0306W	New Phase Detection and Lock Circuit for Clock/Freq Synthesis	WCD	CLOSED	
01CXT0310W	A PLL and Clock Independent VCO Tuning Calibration Algorithm	WCD	CLOSED	
01CXT0342W	An Algorithm for Automated Receiver Static Sensitivity Measurement	WCD	CLOSED	

Innovation Disclosures not yet ranked

	Case Number	Inv Title	Disclosure Status	Inventor
96E042				
Current Limiting Low Impedance Active Bias Circuit for Power Amplifiers				
No Rank				
P Lau				
01CXT0258W (PTD)				
Optimized Layout for Power Amplifier Arrays to Reduce Peak Junction Temperature				
No Rank				
01CXT0354W (PTD)				
MCM Construction Using Capped Buried Vias for Heat Transfer and Lower Inductance				
No Rank				
02CXT0007W (PTD)				
A New BiFET Gilbert-cell Mixer				
No Rank				
02CXT0011W				
Audio-Video Synchronization to Support Streaming in UMTS Multimedia Messaging Service (MMS)				
No Rank				
02CXT0020W				
Integration of an Implanted Lateral PNP with a Double Hetero-Junction NPN in an Existing InGaP/GaAs HBT Process Technology				
No Rank				
02CXT0022W				
Method for Forming a Compact R-C-R By-pass Network for Device Ballasting				
No Rank				

02CXT0025W
Programmable 8/9 and 8/17 High Frequency Prescaler with a Optimized Supply Current
No Rank

02CXT0028W
A Layout Technique Reducing Bipolar Transistor External Base Resistance
No Rank

02CXT0030T
Design of a Lateral Metal Insulator Metal Capacitor in a Semiconductor Metal Process to Meet Density and Slotting Rules
No Rank

02CXT0040W
Optimized Double Heterostructure Bipolar Transistor Design
No Rank

02CXT0041W
A Technique to Efficiently Allocate Computational Resources In a Digital Communication System
No Rank

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SYSTEM SMART	Japan	Pending	WCD	